








SINTERABLE SEMI-CRYSTALLINE POWDER AND ARTICLE FORMED THEREWITH**Publication number:** WO9606881**Publication date:** 1996-03-07**Inventor:** DICKENS ELMER DOUGLAS JR; LEE BIING LIN;
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FORDERHASE PAUL F**Applicant:** DTM CORP (US)**Classification:****- International:** *C08L101/00; B29C41/00; B29C67/00; B29C67/04;
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C08L59/00; C08L77/00; B29K23/00; B29K77/00;
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C08J3/12; C08L23/00; C08L59/00; C08L77/00; (IPC1-
7): C08J3/12; B29C67/00***- European:** C08J3/12; B29C41/00B; B29C67/00L2D**Application number:** WO1995US11006 19950829**Priority number(s):** US19940298076 19940830**Also published as:** WO9606881 (A3)
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Cited documents: WO9412340
 WO8802677
 US5342919[Report a data error here](#)**Abstract of WO9606881**

A laser-sinterable powder product has been prepared having unique properties which allow the powder to be sintered in a selective laser sintering machine to form a sintered part which is near-fully dense. For most purposes, the sintered part is indistinguishable from another part having the same dimensions made by isotropically molding the powder. In addition to being freely flowable at a temperature near its softening temperature, a useful powder is disclosed that has a two-tier distribution in which substantially no primary particles have an average diameter greater than 180 μm , provided further that the number average ratio of particles smaller than 53 μm is greater than 80 %, the remaining larger particles being in the size range from 53 μm to 180 μm . A powder with slow recrystallization rates, as evidenced by non-overlapping endothermic and exothermic peaks in their differential scanning calorimetry characteristics for scan rates of on the order of 10 DEG C to 20 DEG C per minute, will also result in sintered parts that are near-fully dense, with minimal dimensional distortion.

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